



## PIER Energy System Integration Program Area

### Opportunities in Networked Home Communities

**Contract #:** 100-98-001 **Project #:** 14

**Contractor:** Electric Power Research Institute (EPRI)

**Subcontractors:** Paragon Consulting: EH Publishing: Levey Associates: Connect USA, Hoffman Publications: Macro Research: Web Wizard: Centermore Group, Collaborative.com: North-Atlantic Consulting: Phillips Petroleum Company: Sony: WebT: Meternet

**Project Amount:** \$487,000

**Match Amount:** \$741,045

**Contractor Project Manager:** Craig McAllister (650) 855-1095

**Commission Contract Manager:** Thomas Tanton (916) 654-4930

**Status:** Completed

#### **Project Description:**

The purpose of this project is to help California ratepayers with telecommunication-based consumer electronics and Internet-based service opportunities related to energy usage, Internet billing, meter reading, appliance control, and energy information. California ratepayers need help to sort through the many choices, find current, accurate information and analyses and perspectives sensitive to energy issues - online, interactive and customized to their needs. This Target is designed to provide California ratepayers with these resources. This Target offers convenient and relevant technology surveillance services, coupled with interactive web-based access to specialists and experts inside and outside the utility industry.

Focus- and custom- EPRI analysis is provided in several key areas:

- Protocols and technical standards, converging technologies, and commercial activity in powerline, telephone, radio frequencies (RF) and cable media.
- Products and vendors of commercially available systems, including integration and management services.
- Projects, market assessments, and economic analysis.

EPRI supports implementation of practical solutions in several ways:

- Builder guidelines for new home networking (expanding on the growing service offering begun with HVAC and heat pump guidelines).
- Mobile and Internet connected networked home showcases.
- Energy Network Computer Information Network systems deployment projects.

#### **This project supports the PIER Program objective of:**

- Improving the energy cost/value of California's electricity by informing California energy users of new technologies and services to minimize use and cost of electricity and maximize value to the residential ratepayers.

#### **Proposed Outcomes:**

1. Provide market, technology, and business analyses to increase the potential of success of new products and services.
2. Provide Networked Home Centers test-bed facilities to increase likelihood of adoption in California.

3. Provide market, technology, and business analyses of Smart Appliances to bring benefits to California ratepayers.
4. Conduct a Tailored Collaboration entitled “Community Network Demonstration” to evaluate the response of an initial focus group of 100 households to low-cost, non-PC-based, consumer access to relevant energy and public benefit information and services.
5. Conduct a Tailored Collaboration entitled “Linked Infrastructure Security Initiative” to provide workshops and educational materials on designing, managing, and evaluating electronic infrastructure security programs for the energy industry.

#### **Actual Outcomes:**

1. Analyses of new products and services.
  - EPRI’s Home Automation Technology Surveillance service reviewed more than 1500 news releases, conference and meeting presentations, interviews, and markets analyses.
  - Wrote more than 400 item summaries and collated and organized the summaries in three interest categories.
2. Networked Home Centers.
  - Draft floor plan and budget were developed for a Mobile Home Automation Demonstration Showcase. This mobile “home office” will demonstrate networking via the Internet, in-home utility controls, and multiple, switchable meters.
  - Reports were published on Project Res-IDENT and Community Networks.
3. Analyses of Smart Appliances.
  - Analyses of Smart Appliances were provided through one of the interest categories of EPRI’s Home Automation Technology Surveillance service (described above).
  - A report was published on residential gateways and controllers.
4. Plans were developed for a pilot project—the Jefferson Project in Clairemont, California—scheduled to be launched in 2000.
5. Tailored Collaboration on Linked Infrastructure Security.
  - Five workshops were organized and facilitated, included two general program workshops and targeted workshops on development of security policy and procedures, operating systems, and legal issues.
  - Educational materials were published, including a security primer, DCS/PLC primer, SCADA/EMS primer, guidelines document, and an industry strategy paper.
  - A password secured, members-only web site was established for information sharing.

#### **Project Status:**

The Commission’s participation in this target ended as of December 31, 1999. The Tailored Collaborations ended December 31, 2000.